

BOROUGH OF WHITEHAVEN.

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE YEAR 1897.

72, LOWTHER STREET,

WHITEHAVEN, *January 22nd, 1898.*

Gentlemen,

I have pleasure in laying before you my Annual Report for the year 1897, being the fourth since the Incorporation of the Borough, and the tenth Annual Report that I have made as Medical Officer of Health for the Urban Sanitary District, together with the usual tables shewing a comparison of the birth and death-rates for the year, with those of the preceding nine years, and also the number of cases of infectious disease occurring in the Borough and the number of these removed to Hospital during the year.

The population of the Borough at the Census of 1891 was 19,236. There were during the two years, 1896 and 1897, an excess of births over deaths of five hundred, so that by estimating the population for 1897 at 20,000, we are, I think, allowing a liberal margin for emigration, and under-estimating rather than over-estimating our present population, and it is on this estimate that the birth-rate and the death-rate at various ages are calculated.

The total number of deaths registered in the Borough during the past year was three hundred and fourteen, which is equivalent to a death-rate from all causes and at all ages of 15·7 per thousand per annum, being 4·99 per thousand per annum below the average of 20·69 for the preceding nine years.

There were sixty-seven deaths registered of infants under one year of age, giving an infantile death-rate of 3·35, which is 1·44 below the average of 4·79 per thousand per annum for the preceding nine years. Of children under five years of age there were one hundred and thirteen deaths, equivalent to 5·65 per thousand per annum, or 3·04 below the average of 8·69 for the previous nine years.

Of persons over sixty-five years of age there were during the year fifty deaths, or 2·5 per thousand, which is 1·18 below the average of 3·68 for the preceding five years, the reason for the comparison being made with five years only, instead of with nine as in other cases, being, as explained in former reports, due to the fact that before the year 1892 the Senile death-rate was reckoned on persons over sixty years of age.

The eight principal Zymotic diseases, shewn in Table VI, were the cause of twenty-four deaths during the year, giving a Zymotic death-rate of 1·2 per thousand per annum, which is 1·6 below the average of 2·8 per thousand for the nine previous years.

The number of births registered during the year was five hundred and fifty-nine (two hundred and sixty-nine boys and two hundred and ninety girls), equivalent to a birth-rate of 27·95, the average for the previous nine years being 32·36 per thousand per annum.

These figures are on the whole satisfactory, for though the birth-rate is below the average, it is not so much reduced as the general death-rate, whilst the other death-rates are proportionately low, and the Zymotic death-rate is less than half the average rate for the preceding nine years.

There were notified under the "Infectious Disease (Notification) Act" during the year one hundred and eight-one cases—one hundred and forty-six of these being Scarlet Fever, seven Enteric Fever, one Continued Fever, two Puerperal Fever, three Smallpox, four Diphtheria, one Membranous Croup, and seventeen Erysipelas. Of the Scarlet Fever cases thirty-four were removed to Hospital, ten of the patients being under five and twenty-four over five years of age. Of these, two cases proved fatal; one, a child aged three years, died two days after admission,

the immediate cause of death being Convulsions due to worms ; the other, a child aged three years, died on the fifth day after admission from the severity of the disease itself, complicated with Bronchitis and Croup ; twenty-six were discharged when perfectly recovered and free from infection ; and six remained in Hospital at the end of the year. There were also six cases of Scarlet Fever remaining in the Hospital at the beginning of the year which had been admitted in 1896 ; all of these recovered. Of the one hundred and twelve cases treated at their own homes seven proved fatal, five in children under five years of age and two over that age. The number of cases of Scarlet Fever, though far exceeding the number of all other infectious diseases notified during the year is considerably smaller than the number notified in 1896, being, as stated, only one hundred and forty-six, whilst in 1896 it was two hundred and forty-three. The distribution of the cases throughout the different parts of the Borough has been universal, the disease being confined to no particular locality or class of persons, the well-to-do being equally affected with the poor, and the high lying portions of the town as much as the lower and more crowded parts. Fifteen cases were notified in January, eleven in February, four in March, three in April, seven in May, seven in June, eight in July, eleven in August, nineteen in September, nineteen in October, twenty-one in November, and twenty-one in December. The period of detention in Hospital of cases of Scarlet Fever during the year varied considerably, the shortest period being three weeks and four days in the case of a boy who had had the disease before, and in whom this second attack was a very mild one, and the longest period eleven weeks and five days ; six weeks, seven weeks, and eight weeks being common periods, and the average length of stay in Hospital being seven weeks and six days. The actual stay in Hospital may, in some few cases, have been prolonged a few days beyond the period when the patient was free from infection, as in cases where two members of a family were to be discharged together, but as a rule they were not detained after the process of "peeling" was completed. From a consideration of all these periods, and from observation of many other cases, I am led to believe that in the cases that are treated at home a certain number must occur in

which patients are allowed to mix with other people before they are really completely free from "peeling," and, therefore, still in a condition to communicate the disease to others. The Sanitary Inspector in all cases visits the houses in which cases are notified to make enquiries as to the possibility of isolation at home, and in all doubtful cases communicates with me that I may also visit the house if I have not already done so. The majority of the Medical Practitioners also when they notify cases in which they think removal to Hospital desirable, include a note to that effect in their notification, though they are not required by the Act to do so, and their opinion is, of course, always respected. At the time of his first visit, the Inspector leaves a printed copy of the instructions for isolation and disinfection which I have drawn up for the purpose, and requests that he may be informed when the patient is considered by his medical attendant to be free from infection, in order that he may attend personally to the fumigation of the sick room and the removal of clothing and other movable infected articles that may be more efficiently disinfected by the Steam Disinfector at Bransty. If he has received no earlier intimation, he visits the house towards the end of the sixth week to enquire when his services will be required. Sometimes it happens that, the patient having scaled more quickly than usual, disinfection has already been carried out by the people themselves under the direction of their own medical attendant or on their own responsibility, and if this seems to have been done satisfactorily, nothing remains to be done. There is, however, a growing tendency to willingly avail themselves of his services on the part of those in whose houses cases have occurred, and the inclination to resent his offer as an uncalled for intrusion is gradually disappearing as people learn that it is the usual course and come to recognise the fact that it is much more convenient and satisfactory that disinfection should be carried out by an official whose duty it is, and who is constantly doing it, than by themselves who are unacquainted with the details of the work, and who do it for the first time.

In all cases of removal to Hospital, the Inspector attends to the disinfection of the room occupied by the patient immediately on his removal.

The objection that people naturally have to the removal to Hospital of their children or friends when attacked by infectious disease is also rapidly disappearing as it comes to be understood that it is for the patient's own good, as well as for the protection of others, and that they are in Hospital placed under better conditions for recovery than is often possible at home, and that they receive every possible care and attention.

“Return Cases” as they are called—that is cases in which when a person having recovered from an infectious disease returns home from Hospital and a second case of the same disease occurs in the house within such a period as to suggest that the infection might have been brought by the returning patient—are the special bugbear of Scarlet Fever Hospitals, as the Hospital is sure to get the discredit of sending the patient home in an infectious condition. That such is not always the case was exemplified by an occurrence during the past year. A patient, admitted to Bransty with Scarlet Fever, had completely recovered, and I had given permission for his return home, but owing to the fact that the house was being cleaned and re-papered he was permitted to remain a day or two longer in the Hospital, and during these few days a second case was notified in the house, and this patient was removed to Hospital also. Had the first patient returned on the day originally fixed, the second case would undoubtedly have been attributed to infection sent home from the Hospital.

Three cases of Smallpox occurred during the year, the source of infection being altogether problematical. The first case occurred in a public house in Tangier Street on the 11th June, the patient being a girl aged ten years. The second case occurred on the 21st June, in a young man aged twenty, living in Catherine Street, and the third on the 29th June, in a young woman aged eighteen, living at Gore's Buildings. The patients, as well as living in different parts of the town, were entirely unacquainted with each other, none of them had been from home, and though it was suggested that the disease might have been brought by some of the travelling shows, or persons connected with them, who were in the town about that time, no evidence of this could be obtained. The last previous case notified in the

Borough occurred in March, 1895. The patients were all promptly removed to Hospital, the houses from which they were removed being thoroughly disinfected and the inmates re-vaccinated. The cases were all moderately severe for modified cases, but made good recoveries. All those coming in contact with the patients were re-vaccinated, and no further case occurred.

Three of the seven cases of Enteric Fever notified during the year were removed to Hospital, as there was no chance of their being isolated at their own homes. Two of these, which were in an almost hopeless condition when admitted, terminated fatally.

One case notified as "Continued Fever" was admitted to Hospital at the suggestion of her medical attendant, as her earlier symptoms were of a kind to cause a suspicion of incipient Enteric Fever, and as her employers were leaving their house, there was no other possibility of having her isolated for observation. Her fever, however, proved to be of the simple continued character, and she was discharged after a short stay in the Hospital. Two other cases were admitted to Hospital for observation, in both of which Scarlet Fever was feared. In one case two young men employed at an hotel slept in one bedroom, one of them was removed to Hospital suffering from Scarlet Fever, and it was deemed advisable to remove his room-mate for observation, as he complained of sore throat. He did not, however, develop the disease, and was discharged after the usual period of quarantine. In the other case, a boy employed at a dairy-farm who shared his bedroom with two other boys, showed symptoms suggestive of an attack of Scarlet Fever, and was removed at the request of his employer, but as he did not prove to have the disease he also was discharged in a fortnight.

The want of some protection to persons going from the nurse's room to the wards of the South Pavilion in stormy weather, to which I called attention in my Annual Reports for 1895 and 1896, has been remedied by the closing in of the Verandah on each side of the Pavilion by sliding glass doors so constructed, according to plans approved by the Local Government Board, that, whilst giving when closed complete protection from the weather, they can be freely opened at all parts of the end or side in such a way as to allow free access of fresh air.

All parts of the district have been frequently visited and inspected by me during the year, and, in addition to constant general supervision of the district, special inspections have been made from time to time of those localities which, from their original building and lack of adequate air space, or from the habits of their inhabitants, or other causes, are specially liable to lapse into an insanitary condition. In these inspections I received, in the first part of the year, the able assistance of the late Inspector of Nuisances, Mr. Robert Bertram, whose death during the year deprived the Town Council of the services of an attentive and zealous officer. The new Inspector, Mr. D. W. Pearson, has accompanied me in many of my inspections since his appointment. In this way many improvements in the ventilation of dwelling houses, trapping of drains, refuse removal, the cleaning of houses found to be in a dirty state, and the like, were effected on verbal or informal notice being given to the persons responsible, in addition to those cases where formal notice for the abatement of such nuisances was required.

The Slaughter Houses in the district were found, on inspection, to be kept generally in as clean and satisfactory a condition as circumstances permit, but many of the places that have been licensed as slaughter houses by the Sanitary Authority in former years are so situated and constructed as to be altogether unfitted for the purpose. It would be a very great improvement in every way if one Public Abattoir for the Borough could be provided, so as to abolish the present multiplicity of unsuitable places where animals are slaughtered for human food. All animals intended for the food of man could then be easily inspected, both before and after slaughtering, and it would be possible to insure that all meat of a bad or doubtful character was at once detected, which is impossible under existing conditions, no matter how vigilant and experienced a Meat Inspector may be, for the professional "slink butcher" can, in a very short space of time, get rid of all evidence of disease in many cases, and knows well enough how much or how little of a given carcase to destroy or to retain. It is only by an examination of the entire carcase that many cases of meat unfit for human food can be detected, and with small private slaughter houses scattered over different parts

of the Borough, it is impossible for a Meat Inspector to make such an examination in all cases.

Two seizures of meat unfit for food took place during the past year. In one case a quantity of meat that had been left from Saturday's market over the week end was found to be putrid, and was seized and condemned by me and the circumstances reported to the Sanitary Committee, but no prosecution was undertaken, as the meat had probably been sound when exposed for sale on Saturday, and there was no evidence of intention to expose it for sale in the putrid state in which I found it. In the other case, a butcher reported that on slaughtering a cow, which had looked all right to him when alive, he did not like the appearance of her, and I found that the animal was in an advanced stage of Tuberculosis. I had the carcass destroyed, but as there was clearly no intention to expose the meat for sale when the animal was found to be diseased, no prosecution was instituted.

The Sanitary condition of the Borough is, at the end of the year, fairly satisfactory. Scarlet Fever, as has been mentioned, still prevails, as it does in surrounding districts, but with this exception the Borough is free from infectious disease.

The seven cases of Enteric Fever that occurred during the year were not the result of any general insanitary condition. Three of these were imported, and one was caused by the patient whilst at work drinking polluted water not intended for drinking purposes.

A communication was received in December from the Local Government Board calling the attention of the Town Council to the subject of the water supply of their district, and requesting that a copy should be furnished to the Medical Officer of Health. It would perhaps be well, therefore, that I should briefly in this report repeat what I have said in previous reports as to our water supply. The Board, after referring to the serious epidemics of Enteric Fever which have of recent years been traced to polluted water supplies, points out that the Council are the body responsible for the proper and sufficient supply of "pure and wholesome" water to their district, and indicates some of the

dangers attending supplies obtained from different sources. As practically the only supply of drinking water used in the Borough is from the one source, I need not refer to the remarks about deep or shallow well waters.

The whole Borough is supplied by water from Ennerdale Lake, which is described by A. Kitchin, Esq., F.I.C., and Robert Hellon, Esq., Ph.D., F.I.C., whose analysis I append, as “one of the purest sources in the Kingdom.” This water has been repeatedly analysed with the same result. The Lake itself is not liable to contamination of any kind, and the Council have at present power to take one million gallons per day. The water is taken direct from the Lake, about eight miles distant from the town, at an elevation of 369 feet O.D., and distributed by gravitation to the lower central portions of the town, the more elevated outlying districts of the Borough being supplied from the “high level reservoir” which is covered and has an elevation of 500 feet O.D. That portion of the water destined to supply the lower parts of the town works the hydraulic pumps which force the water up to the “high level reservoir.” The “low level reservoir,” at an elevation of 178 feet O.D., is uncovered, and the water from this reservoir is filtered through sand and gravel. The supply is constant. There is thus no possibility of contamination by organic impurities, either at the source or in the course of distribution. Arrangements have been made by the Council during the past year to have a periodical analysis made by Dr. Robert Hellon, County Analyst, of samples taken from the ordinary taps in different parts of the Borough, so that any possible deterioration, as for instance from corrosion of pipes where there is a “dead-end,” will be shewn.

I am, Gentlemen,

Yours obediently,

J. B. FISHER,

Medical Officer of Health.

TABLE I.—BIRTHS IN BOROUGH IN 1897.

Number of Births.	Birth-rate per 1000 per per annum.
559	27·95

COMPARISON WITH NINE PREVIOUS YEARS.

1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.
31·7	31·20	35·50	34·88	33·98	29·00	28·47	33·73	32·78	27·95

TABLE II.—DEATHS AT ALL AGES.

Number of Deaths.	Death-rate.
314	15·7

COMPARISON WITH NINE PREVIOUS YEARS.

1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.
23·0	22·8	19·44	26·34	16·79	18·77	12·94	26·84	19·36	15·7

TABLE III.—DEATHS UNDER ONE YEAR OF AGE.

Number of Deaths.	Death-rate per 1000 per annum.
67	3.35

COMPARISON WITH NINE PREVIOUS YEARS.

1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.
5.3	5.25	4.11	6.34	4.60	4.22	2.57	6.26	4.52	3.35
Infant Death-rate per 1000 Births registered.						1894.	1895.	1896.	1897.
						90.57	185.64	138.04	119.85

TABLE IV.—DEATHS UNDER FIVE YEARS OF AGE.

Number of Deaths.	Death-rate.
113	5.65

COMPARISON WITH NINE PREVIOUS YEARS.

1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.
10.65	11.45	6.38	11.23	6.57	7.11	3.57	13.73	7.57	5.65

TABLE V.—DEATHS OF PERSONS OVER SIXTY-FIVE YEARS OF AGE.

Number of Deaths.	Death-rate.
50	2·5

COMPARISON WITH FIVE PREVIOUS YEARS.

1892.	1893.	1894.	1895.	1896.	1897.
3·65	3·72	2·89	4·21	3·94	2·5

TABLE VI.—DEATHS FROM EIGHT PRINCIPAL ZYMOTIC DISEASES IN 1897.

Smallpox . .	..	...	...	.	...	0
Measles ...	...	...	...	...	...	0
Scarlet Fever	...	...	...	...	...	9
Diphtheria	.	...	...	...	...	1
Whooping Cough	...	...	...	...		1
Typhus Fever	...	...	..	...	...	0
Enteric Fever	...	...	...	..	...	3
Diarrhœa ...	...	...	...	...	...	10
Total Number of Zymotic Deaths						24
Zymotic Death-rate per 1000 per annum						1·2

COMPARISON WITH NINE PREVIOUS YEARS.

1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.
4·45	4·85	1·11	3·03	0·56	2·05	0·42	6·52	2·21	1·2

TABLE VII.—OTHER CHIEF CAUSES OF DEATH
IN 1897.

Erysipelas	...	...	...	...	...	0
Puerperal Fever	...	...	...	...	...	1
Rheumatic Fever	...	...	...	...	...	0
Croup	...	...	...	...	...	1
Phthisis	..	...	...	...	...	23
Bronchitis, Pleurisy, and Pneumonia	...	...	...	...	...	56
Heart Disease	...	...	...	...	...	19
Injuries	...	...	...	...	...	18
All other Diseases	..	...	...	...	...	172
						290
Eight Zymotic Diseases, as above				...	...	24
Total						314

SUMMARY OF SANITARY INSPECTOR'S REPORT
FOR 1897.

Defective Water Closets	...	...	...	...	522
Blocked Drains	...	...	...	...	54
Defective Paving in Courts	...	...	...	...	16
Defective and Damp Houses	...	...	...	...	6
Defective Traps replaced by efficient ones or repaired	...	...	...	...	9

TABLE VIII.

TABLE OF DEATHS during the year 1897, in the Borough of Whitehaven; classified according to Diseases, Ages, and Localities.

Names of Localities.	Mortality from all causes, at subjoined ages.							Mortality from subjoined causes, distinguishing deaths of Children under Five Years of Age.																	
	At all Ages.	Under 1 Year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	Fever.																	
								Smallpox.	Scarlatina.	Diphtheria.	Membranous (Croup.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Krysipelas.	Measles.	Whooping Cough.	Diarrhea and Dysentery.	Rheumatic Fever.	Phthisis.	Bronchitis, Pneumonia and Pleurisy.	Heart Disease.	Injuries.	All (Other Diseases.	Total.
Borough of Whitehaven ..	298	67	43	13	17	111	47	Under 5.....	5 ..	1 ..	1 ..	1 ..	1 ..	1 ..	1 ..	1 ..	1 ..	1 ..	1 ..	2	16	1	1 ..	75	110
								5 upwards...	2 ..	1 ..	1 ..	1 ..	1 ..	1 ..	1 ..	1 ..	1 ..	1 ..	1 ..	21	40	17	14	91	188
Infirmary ..	12	1	...	2	6	3		Under 5.....	...	1	...	...	...	...	...	...	...	...	...	...	...	1	4	6	11
								5 upwards...	2 ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Bransty Hospital	4	...	2	1	...	1	..	Under 5.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
								5 upwards...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Totals ..	314	67	46	14	19	118	50	Under 5.....	7 ..	1 ..	1 ..	1 ..	3 ..	...	...	1 ..	...	...	...	2	16	1	...	75	113
								5 upwards...	2 ..	1 ..	...	...	...	...	...	...	...	...	...	21	40	18	18	97	201
Deaths occurring within the district apportioned for cases not belonging thereto, i.e., in Infirmary.	6	...	...	1	3	2		Under 5.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	5	6
								5 upwards...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

TABLE IX.

TABLE OF POPULATION, BIRTHS, AND OF NEW CASES OF INFECTIOUS SICKNESS, coming to the knowledge of the Medical Officer of Health, during the year 1897, in the Borough of Whitehaven; classified according to Diseases, Ages, and Localities.

Names of Localities.	Population at all Ages.		Registered Births.	New Cases of Sickness in each Locality, coming to the knowledge of the Medical Officer of Health.														Number of such Cases Removed from their Homes in the several Localities for Treatment in Isolation Hospital.													
	Census, 1891	Estimated to middle of 1897.		Fevers.							Fevers.							Fevers.							Fevers.						
				Smallpox.	Scarlatina.	Diphtheria.	Membranous Group.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	Smallpox.	Scarlatina.	Diphtheria.	Membranous Group.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	Removed for Observation.					
Borough of Whitehaven ...	19236	20000	559	3	65	1	1	...	1	6	1	...	...	1	3	10	...	...	...	3	1	...	...	...	2
Infirmary ..	..	...	..	...	...	...	1	...	...	...	...	...	...	3	...	1	...	...	...	...	...	...	...	...	...
Totals ...	19236	20000	559	3	81	3	1	1	1	6	1	...	...	1	3	24	...	...	...	3	1	...	...	...	2

Notification of Infectious Disease has been compulsory in the district since 1st February, 1890.
The Isolation Hospital is the "Bransty Fever Hospital," situate within the Borough.
The Area of the Borough is 1,620 Acres.

ANALYSIS OF THE WATER OF ENNERDALE LAKE.

			Grains per gallon.
Total solid matter in solution, dried at 220° Fahr.	...	...	1·901
Chlorine, existing as Chlorides	...	...	0·602
Ammonia	...	...	None
Albuminoid Ammonia	...	...	0·033
Nitrogen, existing as Nitrates	...	...	0·017
Oxygen, absorbed in 15 minutes at 80° Fahr.	...	...	0·009
Oxygen, absorbed in 4 hours at 80° Fahr.	...	...	0·018
Lead and other poisonous metals	...	...	None
Hardness before boiling (Clark's degrees)	...	...	0·4
Hardness after boiling (Clark's degrees)	...	...	0·3
Appearance in two foot tube	...	...	Faint green
Smell when heated to 100° Fahr.	...	...	None
Microscopical examination	...	Vegetable debris, sand,	diatoms.

INORGANIC CONSTITUENTS.—ANALYTICAL RESULTS:—

Carbonic Acid (combined)	...	...	0·067 grain per gallon.
Sulphuric Acid	..	...	0·238
Nitric Acid	..	...	0·066
Chlorine	...	...	0·602
Silica	...	...	0·119
Alumina	..	...	0·014
Magnesia	...	...	0·095
Lime	...	...	0·189
Potash	...	...	0·051
Soda	...	...	0·453

CONSTITUENTS EXPRESSED IN COMBINATION:—

Sodium Chloride	...	...	0·855 grain per gallon.
Potassium Sulphate	...	...	0·094
Calcium Chloride	...	...	0·130
Calcium Nitrate	...	...	0·100
Calcium Sulphate	...	...	0·216
Magnesium Sulphate	..	...	0·102
Magnesium Carbonate	...	...	0·128
Alumina	...	...	0·014
Silica	...	...	0·119
Organic Matter and Water	...	...	0·143

Total Solid Matter ... 1·901

A. KITCHIN, F.I.C.

ROBERT HELLON, Ph D., F.I.C.